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**(71) Applicant** *(for all designated States except US)*: **GENE LOGIC INC.** [US/US]; 708 Quince Orchard Road, Gaithersburg, MD 20878 (US).
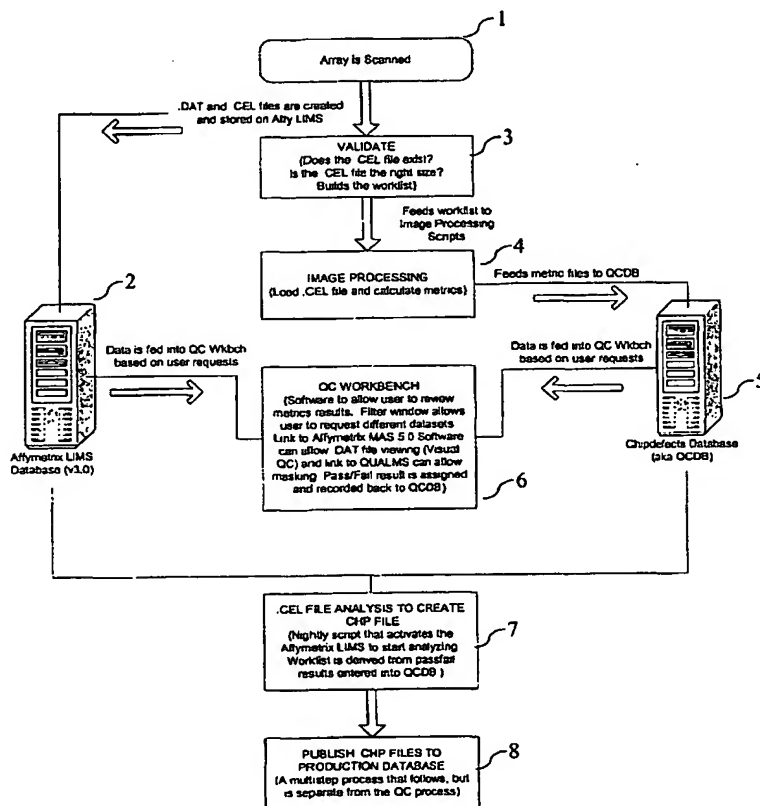
**(72) Inventors; and**
**(75) Inventors/Applicants** *(for US only)*: **ELASHOFF,** Michael [US/US]; 11124 Yellow Leaf Way, Germantown, MD 20876 (US). **ALVARES, Chris** [US/US]; 7547 Heatherton Lane, Potomac, MD 20854 (US). **LAUREN, Peter** [US/US]; 10058 Quantrell Row, Columbia, MD 21066 (US).

**(74) Agents: PRATT, John, S.** et al.; Kilpatrick Stockton LLP, Suite 2800, 1100 Peachtree Street, Atlanta, GA 30309-2043 (US).

**(54) Title:** METHOD AND SYSTEM FOR MANAGING AND QUERYING GENE EXPRESSION DATA ACCORDING TO QUALITY

**(57) Abstract:** An automated system and method are provided for analyzing gene expression data obtained from a plurality of microarrays having mismatch (MM) probe pairs and perfect match (PM) probe pairs. Image data for a plurality of scanned microarrays is stored in a database along with a set of microarray parameters which includes one or more image processing metrics for quality control of the microarray and a pass/fail status of the microarray as determined by these metrics. The user can search the database records according to one or more microarray parameters. The image processing metrics include algorithms for removing local background effects from the probe measurements by determining a model for estimated background using PM probe values. Other image processing metrics utilize a modified Robust Multi-array Averaging (RMA) applied to PM probes to assign weights to probes for determining overall quality of a microarray.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

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